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10/037607

SD

07/27/04

CLAIMS 1 THROUGH 40 ARE CANCELLED

- 41. (currently amended) A contact system for a semiconductor component having a plurality of terminal contacts comprising:
- a board comprising a plurality of contacts in electrical communication with external circuitry; .
- a substrate configured to slide on the board comprising a plurality of flexible segments configured to move independently of one another and a plurality of contactors on the flexible segments configured to simultaneously electrically engage the contacts and the terminal contacts;

each contactor comprising a first contact on a first side of the substrate flexible segment configured to electrically engage a terminal contact on the component, and an anisotropic a conductive polymer layer on a second opposing side of the substrate flexible segment in electrical communication with the first contact configured to electrically engage a contact on the board.

42. (currently amended) The contact system of claim 41 wherein the substrate comprises a plurality of grooves separating the contactors and forming the flexible segments.

for the contactors.

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43. (previously presented) The contact system of claim 41 further comprising a test handler configured to place and hold the component on the substrate.

- 44. (currently amended) The contact system of claim 41 wherein the <u>substrate slides in a z-direction on pins</u> attached to the <u>board</u>.
- is configured to float on the board.
- 45. (previously presented) The contact system of claim 41 wherein the terminal contacts comprise an element selected from the group consisting of leads, bumps and pads.
- 46. (previously presented) The contact system of claim 41 wherein the external circuitry comprises test circuitry.
- 47. (currently amended) A contact system for a semiconductor component having a <u>plurality of</u> terminal contacts comprising:

an interface a board comprising at least one a plurality of interface contacts in electrical communication with external circuitry and a plurality of pins;

a substrate on the board slidably mounted on the pins having a first side and an opposing second side plurality of flexible segments configured to move independently of one another;

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at least one a plurality of contactors on the substrate flexible segments configured to simultaneously electrically engage the interface contacts and the terminal contacts:

the each contactor comprising a first contact on the a first side of a flexible segment configured to electrically engage the a terminal contact, a second contact on the a second side of the flexible segment in electrical communication with the first contact, and an anisotropic a conductive polymer layer configured to electrically engage the second contact and the a interface contact.

48. (currently amended) The contact system of claim 47 wherein the substrate comprises a <u>plurality of grooves</u> on either side of the contactors forming the providing a flexible segments.

on the substrate for the contactor.

- 49. (currently amended) The contact system of claim 47 wherein the anisotropic conductive polymer layer comprises an elastomeric base material and a plurality of conductive particles in the base material configured to electrically engage the interface contact.
- 50. (previously presented) The contact system of claim 47 wherein the terminal contact comprises a lead and the first contact comprises a pad configured to physically engage the lead.
- 51. (withdrawn and currently amended) The contact system of claim 47 wherein the terminal contact comprises a bump and the <u>first</u> contact comprises an indentation for the bump.

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- 52. (withdrawn) The contact system of claim 47 wherein the terminal contact comprises a pad and the first contact comprises a bump for engaging the pad.
- 53. (previously presented) The contact system of claim 47 wherein the component comprises an element selected from the group consisting of packages, ball grid array devices, and modules.
- 54. (currently amended) A contact system for a semiconductor component having a plurality of terminal contacts comprising:

an interface \underline{a} board comprising a plurality of interface contacts in electrical communication with \underline{an} external circuitry;

a substrate on slidably mounted to the interface board for movement in a z-direction and having a first side, an opposing second side, and a plurality of grooves from the first side to the second side forming a plurality of flexible segments;

a plurality of contactors on the flexible segments configured to <u>move independently of one another and to</u> simultaneously electrically engage the <u>interface</u> contacts and the terminal contacts;

each contactor comprising a first contact on the first side of a flexible segment configured to electrically engage the terminal contact, a second contact on the second side of the flexible segment in electrical communication with the first contact, and an anisotropie a conductive polymer layer configured to electrically engaging engage the second contact and an interface a contact.

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- 55. (previously presented) The contact system of claim 54 wherein the first contact and the second contact comprise an element selected from the group consisting of gold and platinum.
- 56. (currently amended) The contact system of claim 54 wherein the anisotropic conductive polymer layer comprises an elastomeric base material and a plurality of conductive particles in the base material.
- 57. (currently amended) The contact system of claim 54 wherein the conductive polymer layer comprises a plurality of particles configured to penetrate the second contacts.

<u>flexible</u> <u>segments</u> <u>allow</u> <u>the</u> <u>contactors</u> <u>to</u> <u>move</u> <u>independently</u> <u>to</u> <u>accommodate</u> <u>dimensional</u> <u>variations</u> in the <u>terminal</u> <u>contacto</u>.

- 58. (currently amended) A contact system for a semiconductor component having a plurality of terminal contacts comprising:
- a test circuitry configured to apply test signals to the component;
- a test handler configured to move and support the component;
- a board comprising a plurality of contacts in electrical communication with the test circuitry;
- a substrate on the board comprising a plurality of independent flexible segments and a plurality of contactors on the flexible segments configured under a force applied by the test handler to the component to simultaneously electrically engage the contacts and the terminal contacts;

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each contactor comprising a first contact on a first side of the substrate a flexible segment configured to electrically engage a terminal contact on the component, and a second contact on a second opposing side of the substrate flexible segment in electrical communication with the first contact, and an anisotropic a conductive polymer layer configured to electrically engage the second contact and a contact on the board.

- 59. (previously presented) The contact system of claim 58 wherein the substrate is configured to float in a Z-direction on the board.
- 60. (currently amended) The contact system of claim 58 wherein the substrate comprises a plurality of grooves electrically isolating the contactors and forming the flexible segments.

on the substrate for the contactors.

CLAIMS 61 THROUGH 77 ARE CANCELLED